

REMARKS

This amendment is being filed in response to the Office Action having a mailing date of May 31, 2005. The specification, drawings, and claims are amended as shown. No new matter has been added. With this amendment, claims 1-38 are pending in the application.

I. Amendments to the Specification and Drawings

In the Office Action, the Examiner objected to the drawings (stating that the drawings were unclear) and to the specification (Abstract too long). The applicant has performed another review of the application in response to these objections and has made amendments as follows.

First, the Abstract has been amended to reduce the word count and to address any other objections by the Examiner. The Abstract is now believed to be in acceptable form.

Second, the drawings have been formalized/amended to address the Examiner's objections. Moreover, the drawings have been amended to add or change reference labels, so that the drawings and written description are consistent with one another. Replacement sheets of the drawings are included with this amendment.

Third, the specification (mostly the written description) have been amended to be consistent with the figures and/or to correct various clerical errors. A Substitute Specification that incorporates the changes is being submitted with this amendment, along with a redline copy of the Substitute Specification showing the changes that have been made.

The Examiner is kindly requested to review and accept the amended drawings and specification.

II. Rejections Under 35 U.S.C. § 112, Second Paragraph

In the Office Action, the Examiner rejected claims 1-38 under 35 U.S.C. § 112, second paragraph, for being indefinite. Specifically, the Examiner pointed out several examples in the claims where there was a lack of antecedent basis and other unclear recitations.

The claims have been amended as shown to provide proper antecedent basis and to otherwise clarify the recitations contained in the claims. It is believed that these claim amendments overcome the indefiniteness rejections.

In the Office Action, the Examiner further specifically rejected claims 19-20, 22, 28, 33, and 38 under 35 U.S.C. § 112, second paragraph, for being indefinite since such claims are “containing the structural table.” The applicants respectfully disagree that these claims are indefinite. While the bodies of the claims are set forth in a tabular format, the tabular information recited in the claims provide specific and clear recitations pertaining to the registers (for example). A person skilled in the art having the benefit of the applicant’s disclosure can readily understand the claimed subject matter. Accordingly, it is respectfully requested that the indefiniteness rejections pertaining to claims 19-20, 22, 28, 33, and 38 be withdrawn.

The applicants note that claims 19-20, 22, 28, 33, and 38 were not rejected based on prior art. Accordingly, if/when the Examiner withdraws the indefiniteness rejections, it is believed that these claims would be allowable.

III. Discussion of the Embodiments and Claims in view of the Rejections Under 35 U.S.C. § 102(e)

In the Office Action, the Examiner rejected claims 1-18, 21, 23-27, 29, 31-32, and 34-37 under 35 U.S.C. § 102(e) as being anticipated by Ponti (U.S. Patent No. 6,494,086). The Examiner further indicated that claim 30 is allowable (over Ponti). The applicants thank the Examiner for the indication of allowable subject matter. With regards to the rejections on the basis of Ponti, the applicants respectfully disagree with the Examiner, and requests that the Examiner reconsider and withdraw these rejections.

A disclosed embodiment will now be discussed in comparison to the applied references. Of course, the discussion of the disclosed embodiment, and the discussion of the differences between the disclosed embodiment and subject matter described in the applied references, do not define the scope or interpretation of any of the claims. Instead, such discussed differences are intended to merely help the Examiner appreciate important claim distinctions discussed thereafter.

One embodiment of the present invention seeks to carry out more injections in the same engine cycle (*e.g.*, a multi-jet solution) in order to reduce the emissions and to satisfy governmental requirements for controlling pollution emissions. Thus, one embodiment of the invention carries out more injections in the same operating phase of the engine. Moreover, one

embodiment of the present invention carries out injections also during the time that elapses between a tooth and a successive revolution of the crankshaft (drive shaft), with a precision of 1/16th of an interval for example, in order to increase the angular resolution of the position of the drive shaft. *See, e.g.*, pages 6-9 and elsewhere in the present application.

Ponti does not disclose, teach, or suggest these features. The scope of Ponti is to find as fast as possible the exact phase of an engine in order to allow the engine to run in the briefest possible time. *See, e.g.*, the Summary of the Invention section of Ponti. The operating engine phases of Ponti's system are shown in Figure 4 of Ponti.

There is nothing in Figure 4 and elsewhere in Ponti that involve increasing injections in a same operating phase of the engine. Moreover, there is nothing in Figure 4 and elsewhere in Ponti that involve carrying out an injection during the time that elapses between a tooth and a successive revolution of the drive shaft, so as to increase resolution of the angular position of the drive shaft.

Accordingly, independent claim 1 has been amended to recite that the third module supplies signals for driving the injections --in a manner that injections during a same operating phase of the engine are increased and are based at least in part on an angular position of the drive shaft--. As described above, these features are not disclosed, taught, or suggested by Ponti. Instead, Ponti simply relates to techniques to allow an engine to run in the briefest possible amount of time. Therefore, amended independent claim 1 is allowable over Ponti.

Independent claim 14 is amended to recite that --injections during a same operating phase of the motor are increased and are based at least in part on an angular position of a drive shaft--. Again, such features are not disclosed, taught, or suggested by Ponti. Therefore, amended claim 14 is allowable over Ponti.

Independent claim 23 is amended to recite that --injections during a same operating phase of the engine are increased and are based at least in part on the angular position of a drive shaft--. Ponti is completely silent with regards to these features, and therefore amended claim 23 is allowable over Ponti.

Independent claim 31 is amended to recite --injections during a same operating phase of the engine are increased and are based at least in part on the angular position of a drive

shaft--. Since this feature is not disclosed, taught, or suggested by Ponti, amended claim 31 is allowable.

IV. Conclusion

Overall, none of the references singly or in any motivated combination disclose, teach, or suggest what is recited in the independent claims. Thus, given the above amendments and accompanying remarks, the independent claims are now in condition for allowance. The dependent claims that depend directly or indirectly on these independent claims are likewise allowable based on at least the same reasons and based on the recitations contained in each dependent claim.

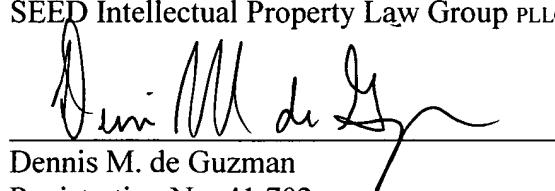
If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to the allowability of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 622-4900.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

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DMD:wt

Enclosures:

22 Replacement Sheets of Drawings (Figures 1A-8D)
Redlined Substitute Specification
Substitute Specification
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601082.doc

Application No. 10/722,375
Reply to Office Action dated May 31, 2005

Amendments to the Drawings:

The attached sheets of drawings include changes to Figures 1A-8D. These sheets, which include Figs. 1A-8D, replaces the original sheets including Figs. 1A-8D.

Attachment: Replacement Sheets